COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

CONSTRUCTION OF NEW 23 kV SUB-TRANSMISSION LINE FROM KING STREET #18 SUBSTATION

TESTIMONY OF PAUL E. BURGESS

Q. Please state your name and business address.

A. My name is Paul E. Burgess, and my business address is 274 Summer Street, Boston, Massachusetts. I am a Senior Electrical Lead Engineer with Vanderweil Engineers, and I provide engineering services to Massachusetts Electric Company (the "Company").

Q. What are your professional qualifications in the area of electric utilities?

A. I received a Bachelor of Science Degree in Electrical Engineering from Northeastern University in 1973 and a Master of Science Degree in Electrical Engineering from Northeastern University in 1977. I am a registered professional engineer in the Commonwealth of Massachusetts, and have over 30 years of experience in the engineering, design, and construction of electric power lines from 13.8 kV to 765 kV.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony is to summarize the Company's proposal to construct and operate a new three phase 23 kV distribution supply line from

the King Street #18 Substation located off King Street in Groveland, Massachusetts to the Mill Street Junction located off Mill Street in Georgetown, Massachusetts, a distance of approximately 1.6 miles. See Exhibit PEB-1, for the general location of the proposed line. See Exhibit PEB-2 for an aerial photograph of the existing right-of-way and the proposed new Electricity Supply Line.

Q. Please describe the physical location of the proposed line.

A. The new line will be located on existing rights-of-way, adjacent to and parallel to existing electric power lines. From the King Street #18 Substation, northeast to a distance of approximately 0.3 miles, the new line will be located between an existing 345 kV line and an existing 23 kV line. From there to the Mill Street Junction, approximately 1.3 miles, the proposed line will turn southeasterly and parallel an existing 23 kV line on an existing 80-foot wide right-of-way. Because the proposed line parallels an existing 23 kV line, the new poles will be located opposite existing poles, wherever possible. See Exhibit PEB-3.

Q. What standards have you used in designing the proposed line?

A. The proposed line has been designed in accordance with the standards established by the National Electrical Safety Code, ANSI C2-2002, and the National Grid's Construction Standards.

Q. Please describe the poles that will support the proposed line.

A. The company proposes to construct the new line using 37 single wood pole Structures. These poles will be of the same construction as the existing 23 kV structures. See Exhibit PEB-4. On the 80-foot wide portion of the right-of-way, the separation between the existing line and the new line will generally be 20 feet, except in specific areas, where 12 feet will be used to minimize tree clearing and to maximize the clearance to higher voltage lines. See Exhibit PEB-5. The Company will use 40-foot to 60-foot wood poles to construct the proposed line. The typical pole be a 45-foot pole which is directly buried, and stands 38 feet and 6 inches above grade. The new pole heights will match the existing pole heights, wherever possible. At the King Street #18 Substation, and at the Mill Street Junction, minor modifications will be made to the existing adjacent 23 kV line to accommodate the interconnection of the proposed line with the substation, and with the 23 kV system at the Mill Street Junction.

Q. Will you please describe clearing and trimming activities that will be required for this project?

A. Only minor clearing is required near the existing King Street Substation. From there to the existing 80-foot wide right-of-way, no clearing is required. Between the existing line and the southern edge of the 80-foot wide of the right-of-way, the right-of-way has been cleared, except for approximately 2,700 feet, which has been partially cleared. Some additional tree clearing

and replanting will be required at three locations, one of which is in a wetland for which there will be minimal clearing. The clearing will occur on east side and west side of both Evergreen Way and Pond Street, and at the Mill Street Junction. A total of approximately 600 feet of replanting is anticipated on the east side of both Evergreen Way, and Pond Street.

Q. Please explain how crews will be able to reach the proposed line for operations and maintenance work

A. Access to the right-of-way will be from public ways. Access to the new structure locations will be along the right-of-way using existing access roads. No new access roads are anticipated.

Q. What is the proposed construction schedule for this project?

A. The construction schedule will be approximately eight to ten weeks from the start through completion. Construction hours are planned between 7 a. m. to 5 p.m. Monday through Friday. However, it may be necessary to work outside of these time periods in order to interconnect the new line into the Company's 23 kV electrical system.

Q. How will construction affect the Towns of Georgetown and Groveland relative to impact on traffic, and the use of municipal services (electricity, water, and sewerage)?

A. Construction of the new line will have a minimal impact outside of the right-

of-way, and will not require the use of any municipal services. The volume of traffic generated during construction is not expected to be large enough to significantly affect traffic flow on public ways in the area.

Q. Will materials and/or equipment be left on the right-of-way when construction crews are not present?

A. Storage of materials will be offsite, and overnight storage of equipment will be offsite in a suitable location. An appropriate site is normally selected close to the start of construction.

Q. Does this conclude your testimony?

A. Yes, it does.

LIST OF EXHIBITS

Exhibit PEB-1	Locus Map
Exhibit PEB-2	Aerial Photograph of proposed line in Georgetown and Groveland, Massachusetts
Exhibit PEB-3	Maps of Ward Hill to West Amesbury Line (via King Street Substation, and King Street to Ipswich Right-Of-Way) showing the proposed location of the new line and the proposed locations of the new poles. A total of six sheets at a scale of 1"=40'.
Exhibit PEB-4	R-O-W Cross-Section For Poles Separated by 20 Feet
Exhibit PEB-5	R-O-W Cross-Section For Poles Separated by 12 Feet
Exhibit PEB-6	Details of the Estimated Cost of an Overhead Line to be Installed in Georgetown and Groveland, Massachusetts